

How can your demand to fly green support global solidarity?

Hey traveller, your demand for sustainable aviation fuels contributes to a bigger mission*

*Your demand to fly green can have a larger positive impact than you may think. Not only from a climate perspective but also in terms of social justice, food security, access to clean energy and reduced air pollution.

Sustainable aviation fuels can contribute to a bigger mission of global solidarity. This depends on the type of raw materials that are used and where they are produced. Sustainable aviation fuel (SAF) contributes towards the Sustainable Development Goals (SDG) when their production is centred around the use of residue streams and increase of soil quality.¹

The use of residues for SAF has many benefits

Around the world, there is a large quantity of agricultural residues resulting from the cultivation and processing of crops.² From the 10 crops in the world, an estimated 3 billion tonnes of crop residues are produced per year.³

These residues can be used as raw material for the production of sustainable aviation fuels which in turn creates value for materials that would otherwise be unused or burned in the field (leading to important air problem).^{4,5} By converting residues, it is also possible to bring back the valuable nutrients back to the soil while also increasing incomes for farmers which contributes to improving their welfare.⁶

SAF production can support the global food system

Land degradation is increasing globally at a steady rate due to heightened impacts of climate change and impact 1.3 billion people.⁷

Growing raw material for sustainable aviation fuels on degraded land can help restore the soil by adding nutrients and carbon into it.² This in turn can strengthen the global food

¹ IEA Bioenergy 2021, [Biomass supply and the Sustainable Development Goals](#)

² IEA Bioenergy 2017, [Mobilisation of agricultural residues for bioenergy and higher value bio-products](#)

³ Elbersen 2026, [From biomass availability to biomass mobilization. Understanding how biomass mobilization works](#)

⁴ IEA Bioenergy 2023, [Opportunities of bioenergy and biofuels in developing countries](#)

⁵ IEA Bioenergy 2024, [Progress in Commercialization of Biojet /Sustainable Aviation Fuels \(SAF\)](#)

⁶ EU CAP Network 2024, [Use of agricultural and forestry residues for creating alternative sources of income for farmers and foresters](#)

⁷ United Nations Convention to Combat Desertification 2024, [The Land Story](#), see data on land degradation [here](#)

system by adding value to land that otherwise cannot grow food. Adding any crop on a bare, degraded or abandoned land will create a soil cover that helps stabilise the soil.⁸ After several years of cultivation, once the soil conditions are restored, edible crops can be grown and contribute to improving food security.

Although severely degraded land does not present a readily attractive option due to its biophysical limitations, several European research projects have been carried out to assess the production of different types of raw materials (also known as feedstocks) in these types of environment.⁹ Industrial crop varieties that are drought resistant and necessitate low input such as sorghum, safflower, hemp, miscanthus, switch grass or perennial crops grown on degraded land have been studied in different climate conditions and show interesting potentials to restore land and produce energy crops.^{10,11}

However, it is usually easier for farmers to start growing energy crops on their own productive land than on degraded land, and annual crops than perennials because the former require less farm management change.¹² The uptake of these crops by farmers will require significant support from policy and industry to overcome the barriers of growing on degraded land.

With a growing demand for sustainable aviation fuels that focuses on restoring degraded lands, we can contribute to reversing soil degradation and contribute to food security in the future.

What is Sustainable Aviation Fuel?

You can already fly green with sustainable aviation fuels (SAF) which is a broader term to call aviation fuels that are made from sustainable resources. SAF is mixed with fossil jet fuels to reduce emissions in planes. It is used as a 'drop-in' fuel which means that it can be added without any changes to the aircraft or infrastructure.

Sustainable aviation fuels can be made from a variety of raw materials also known as feedstock:

- Bio-SAF is made from sustainable bio-feedstocks such as waste or residues from the forestry and agricultural sector or used cooking oil.
- Synthetic sustainable aviation fuels (e-SAF) are based on renewable hydrogen and captured CO₂.
- Hydrogen and electricity may also be used in the future as sustainable energy carriers in planes and are included under the European ReFuelEU aviation.¹³

Why do we need sustainable aviation fuels?

Smaller electric planes may come soon to the market. However, the bigger electric passenger planes are still in the development phase and not yet commercially available, due to heavy battery packs that limit the payload and flight range.

In the meantime, you can fly green with the use of sustainable aviation fuels. These are a drop-in alternative to replace (up to 50%) of fossil jet fuel as it allows to achieve significant emissions savings. Depending on the type of feedstock used, sustainable aviation fuels significantly reduce greenhouse gas emission by up to 80% or more compared to fossil jet fuel.¹⁴

⁸ Elbersen 2021, [Understanding the potential of marginal lands in Europe](#)

⁹ Pancaldi and Trindade 2020, [Marginal Lands to Grow Novel Bio-Based Crops: A Plant Breeding Perspective](#)

¹⁰ MIDAS 2023, [Deliverable 5.2: Regional biomass-to-product pathways, system boundaries and process design](#)

¹¹ MAGIC 2022, D4.6: [Long-term performance of perennial industrial crops grown on marginal land](#)

¹² Dubois 2024, [Technical note: Land-based biomass and energy crops](#)

¹³ Deloitte 2025, [National SAF roadmap](#)

¹⁴ ICCT 2025, [Understanding the greenhouse gas emissions of different SAF Pathways](#)

